



Springer's *Journal of Signal Processing Systems*

Special issue on Model-based Design of Signal and Information Processing Systems

Call for Papers

Design of signal and information systems is traditionally performed by generating independently a hardware circuitry and a software stack using long-term supported languages such as VHDL and C. Decades of research efforts on compilers have automated transformations from high-level state machine-based representations to many different forms of middleware and hardware. However, system integration and validation remain difficult operations, inflating design and verification costs and fostering technological conservatism.

Since the early 2000s, initiatives are flourishing that automate design steps using model-based engineering, actor-oriented design, design space exploration, etc. These initiatives share a common concern of focusing on model semantics rather than on language syntaxes.

This special issue on "Model-based Design of Signal and Information Processing Systems" welcomes publications on the following and related topics:

- Models of Computation for signal and information processing systems
- Models of Architecture for signal and information processing systems
- Model-based methodologies for the design of signal and information processing systems
- Combination of physical and computational models for Cyber-Physical Systems (CPS) and IoT design
- Model-based system design tools, frameworks and methods for distributed and heterogeneous systems
- Application of model-based design methods and tools to signal and information use case systems such as video processing,
 - telecommunication, computer vision, virtual reality, deep learning, etc.
- Model-based multi- and many-core system programming
- Model-based VLSI, GPU and FPGA system design
- Model-based heterogeneous computing with hardware and software co-design
- Models for the test and verification of systems
- Models for system Key Performance Indicators (KPIs) assessment
- Design Space Exploration of signal and information processing systems

Important dates

Submission deadline: **July 15, 2018**

Guest Editors

Maxime Pelcat, IETR - INSA Rennes

Eduardo Juarez, Polytechnic University of Madrid (UPM)

Andy Pimentel, University of Amsterdam

Journal website:

<https://link.springer.com/journal/11265>

<http://www.springer.com/engineering/signals/journal/11265>

This is an open call, and papers from the Collaborative Workshop on Model-based Design of Signal and Information Processing Systems (COWOMO) will also be invited.



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